

3.5 Implementation Influenced by Geographic Features

Section 3.5.1

Physiography and Slope

The physical geography (physiography) of each Survey site was noted and one of the following was selected as the predominant landform: flatwoods, foothills, mountains, pocosin / bays, rolling, sandhills, or wetlands. Across the state, 53 sites occurred on flatwoods (25%), 25 on foothills (12%), 29 on mountains (14%), six on pocosin / bay (3%), 80 on rolling (38%), one on sandhills (<1%), and 18 on wetlands (8%). BMP implementation was highest on landforms with the least slope. On average statewide, BMP implementation was highest on pocosin / bays (94%) followed by flatwoods and wetlands (92%), sandhills (89%), rolling (88%), foothills (83%), and mountains (63%). Risk to water quality was the lowest on sandhills (0%), followed by rolling (28%), pocosin / bay (38%), wetlands (52%), foothills (53%), flatwoods (63%), and mountains (72%).

Section 3.5.2

Soil Texture

Surveyors determined the predominant soil texture present at each site using the county's USDA soil survey or the *Texture by Feel* method and recorded the texture as one of the following: clay, clay loam, loam, organic, sand, sandy clay, sandy clay loam, and sandy loam. Across the state, 25 sites occurred on clay soils (12%), 62 on clay loam (29%), 14 on loam (7%), 20 on organic (9%), four on sand (2%), one on sandy clay (<1%), 14 on sandy clay loam (7%), and 72 on sandy clay (34%). BMP implementation was generally inversely related to the amount of medium-textured soils present at the site. On average statewide, bmp implementation was the highest on sand (95%), followed by sandy loam and organic soils (91%), sandy clay loam (87%), clay (85%), sandy clay (83%), clay loam (78%), and loam (76%). Risk to water quality was the lowest on sandy clay soils (13%), followed by sandy clay loam (29%), sandy loam (45%), clay (46%), sand (50%), loam (51%), clay loam (62%), and organic (63%).

Section 3.5.3

Erosion and Erodibility

Surveyors used their best professional judgment to estimate site erodibility class and recorded it as one of the following categories: low, moderate, or high. Surveyors also noted erosion type if observed near a waterbody as one or more of the following: sheet, rill, gully, and/or wind erosion. There were 115 sites statewide categorized as having a low erodibility class (54%), 63 sites with moderate erodibility (30%), and 34 with high erodibility (16%). Across the state, there were 155 sites with no erosion observed near a waterbody (73%), 21 sites with gully erosion present (10%), 21 with sheet erosion (10%), nine with rill erosion (4%), and six with multiple types of erosion (3%). BMP implementation was lower on more erodible sites. On average statewide, BMP implementation was the highest on sites categorized as having low erodibility (92%), followed by moderate erodibility (82%) and high erodibility (70%). Risk to water quality was lowest on sites with low erodibility (37%), followed by moderate erodibility (51%), and high erodibility (67%).

Discussion – Geographic Features

BMP implementation was highest and risk to water was lowest on landforms with lower slopes. Sites with medium textured soils generally exhibited a lower BMP implementation and higher risk to water quality. Similarly, sites with higher erodibility soils had lower BMP implementation rates and higher risk to water quality. These data clearly indicate the influence of site geographic features on BMP implementation and risk to water quality. Also, the influence of slope, soil texture, and soil erodibility on BMP implementation and risk to water quality closely aligns with regional implementation and risk data (i.e., Mountains, Piedmont, and Coastal Plain).